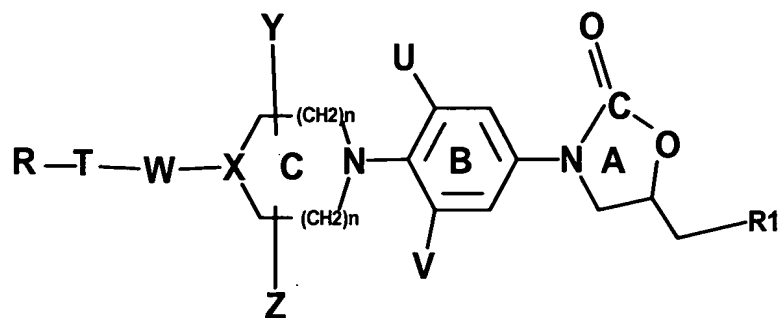


CLAIMS:

1. A compound having the structure of Formula I



FORMULA I

and its pharmaceutically acceptable salts, enantiomers, diastearomers, N-oxides, prodrugs or metabolites, wherein

T is five to seven membered heterocyclic ring, aryl, substituted aryl, bound to the ring **C** with a linker **W** and the heterocyclic and aryl rings are further substituted by a group represented by **R**,

wherein **R** is selected from the group consisting of alkyl (C_{1-6}), halogen-CN, COR_5 , $COOR_5$, $N(R_6, R_7)$, $CON(R_6, R_7)$, CH_2NO_2 , NO_2 , CH_2R_8 , CHR_9 , $-CH = N-OR_{10}$, $-C=CH-R_5$, wherein R_5 is selected from the group consisting of H, optionally substituted C_1-C_{12} , alkyl, C_{3-12} , cycloalkyl, aryl, heteroaryl; R_6 and R_7 are independently selected from the group consisting of H, optionally substituted C_{1-12} alkyl, C_{3-12} cycloalkyl, C_{1-6} alkoxy; R_8 and R_9 are independently selected from the group consisting of H, C_{1-6} alkyl, F, Cl, Br, C_{1-12} alkyl substituted with one or more of F, Cl, Br, I, OR_4 , SR_4 , $N(R_6, R_7)$ wherein R_4 is selected from the group consisting of H, C_{1-12} alkyl, C_{3-12} cycloalkyl, C_{1-6} alkoxy, C_{1-6} alkyl substituted with one or more F, Cl, Br, I or

OH and R₆ and R₇ are the same as defined earlier, R₁₀ is selected from the group consisting of H, optionally substituted from H, optionally substituted C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆ alkoxy, C₁₋₆ alkyl, aryl, heteroaryl;

n is an integer in the range from 0 to 3;

5 X is CH, CH-S, CH-O and N

Y and Z are independently selected from the group consisting of hydrogen, C₁₋₆ alkyl, C₃₋₁₂ cycloalkyl, C₀₋₃ bridging group;

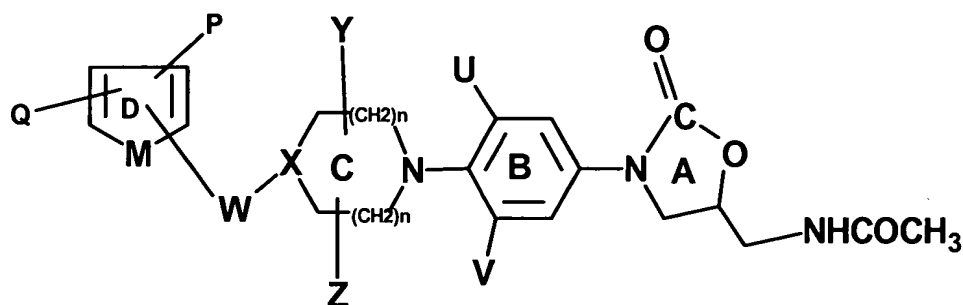
10 U and V are independently selected from the group consisting of optionally substituted C₁₋₆ alkyl, F, Cl, Br, C₁₋₁₂ alkyl substituted with one or more of F, Cl, Br, I, preferably U and V are hydrogen or fluoro;

W is selected from the group CH₂, CO, CH₂NH, -NHCH₂, -CH₂NHCH₂, -CH₂-N(R₁₁)CH₂-, -CO-CO-, CH₂(R₁₁)N-, CH(R₁₁), S, CH₂(CO), N(R₁₁) wherein R₁₁ is hydrogen, optionally substituted C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆ alkoxy, C₁₋₆ alkyl, aryl or heteroaryl;

15 R₁ is selected from the group consisting of -NHC(=O)R₂ wherein R₂ is hydrogen, C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆ alkoxy, C₁₋₆ alkyl substituted with one or more of F, Cl, Br, I or OH; N(R₃, R₄); -NR₂C(=S)R₃; -NR₂C(=S)SR₃ wherein R₂ is the same as defined above and R₃ and R₄ are independently selected from the group consisting of H, C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆ alkoxy, C₁₋₆ alkyl substituted with one or more of F, Cl, Br, I or OH.

20

2. A compound having structure of Formula II



FORMULA II

and its pharmaceutically acceptable salts, enantiomers, diastereomers, N-oxides, prodrugs or metabolites wherein

M= O, S, NH, N-CH₃;

X is CH, CH-S, CH-O and N;

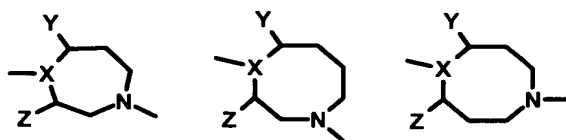
Y and Z are independently selected from the group consisting of hydrogen , C₁₋₆ alkyl, C₃₋₁₂ cycloalkyl, C₀₋₃ bridging group;

U and V are independently selected from the group consisting of optionally substituted C₁₋₆ alkyl, F, Cl, Br, C₁₋₁₂ alkyl substituted with one or more of F, Cl, Br, I, preferably U and V are hydrogen or fluoro;

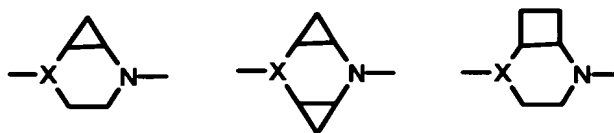
W is selected from the group consisting of CH₂, CO, CH₂NH, -NHCH₂, -CH₂NHCH₂, -CH₂-N (R₁₁) CH₂ - , CH₂ (R₁₁) N -, CH (R₁₁) , S, CH₂(CO), NH wherein R₁₁ is optionally substituted with C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆ alkoxy, C₁₋₆ alkyl , aryl , heteroaryl except when M=S, Q=P=H, W=(C=O);

n is an integer in the range from 0 to 3; and,

Q and P are independently selected from the group consisting of -CN, COR₅,
 COOR₅, N (R₆, R₇), CON (R₆, R₇), CH₂NO₂, NO₂, CH₂R₈, CHR₉, -CH=N-
 OR₁₀, C=CH-R₅, wherein R₅ is selected from the group consisting of H,
 optionally substituted C₁₋₁₂alkyl, C₃₋₁₂ cycloalkyl, aryl, heteroaryl; R₆ and R₇
 are independently selected from the group consisting of H, optionally
 substituted C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆ alkoxy; R₈ and R₉ are
 independently selected from the group consisting of H, C₁₋₆ alkyl, F, Cl, Br,
 C₁₋₁₂ alkyl substituted with one or more of F, Cl, Br, I, OR₄, SR₄, wherein R₄ is
 selected from the group consisting of H, C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆
 alkoxy, C₁₋₆ alkyl substituted with one or more F, Cl, Br, I or OH, N(R₆, R₇),
 R₁₀ is selected from the group consisting of H, optionally substituted C₁₋₁₂
 alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆ alkoxy, C₁₋₆ alkyl, aryl, heteroaryl except W=
 (CO), Q and P =H and M=S, ring C in Formula II is 6-8 membered or of larger
 size and the larger rings have either two or three carbons between each
 nitrogen atom, comprising of

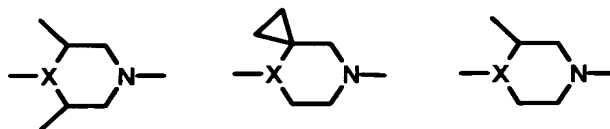


and may be bridged to form a bicyclic system as shown below,



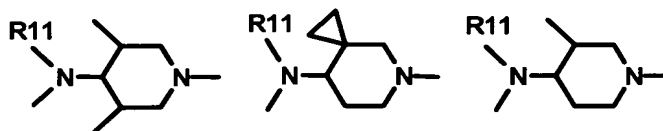
ring C is optionally substituted by Y and Z with alkyl groups, cycloalkyl

groups, fluoro group, carboxylic and corresponding esters, amides, substituted
 alkyls or bridging alkyl groups are as shown below:



six membered ring C with $X = -CH-(NR_{11})$, (wherein R_{11} is the same as defined earlier) is selected from the group consisting of the following rings;

5



10



15

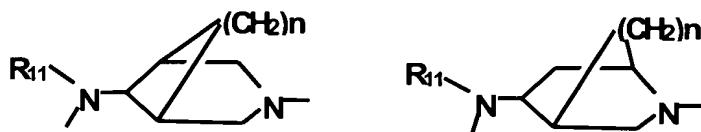


20



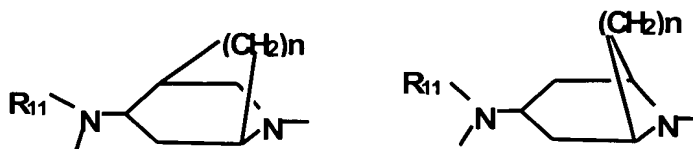
25

30



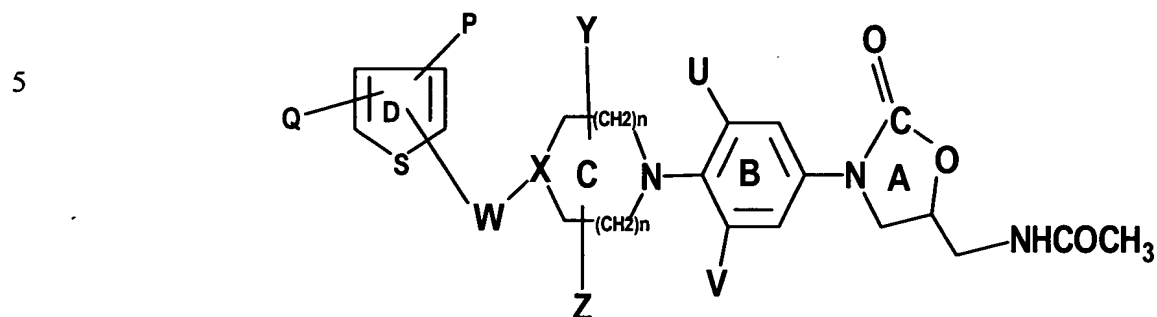
35

40

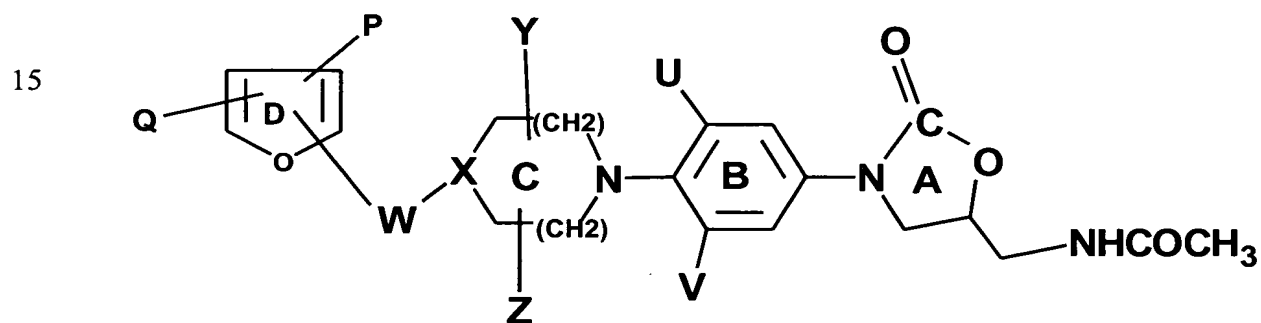


45

wherein M = Sulphur and Oxygen as shown by Formulae III and IV respectively,



Formula III



Formula IV

wherein P, Q, U, V, X, Y, Z, W and n in Formulae III and IV as defined earlier for Formula I.

- 25 3. A compound selected from the group consisting of
1. (S)-N-[[3-[3-Fluoro-4-[N-1-[4-(2-furoyl) piperazinyl]]phenyl]-2-oxo-5-oxazolidinyl] methyl]acetamide
 2. (S)-N-[[3-[3-Fluoro-4-[N-1[4-{2-furyl(5-
 - 30 formyl)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide

3. (S)-N-[[3-Fluoro-4-[N-1[4-(2-furyl-(5-carboxyethyl)methyl)piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 5 4. (S)-N-[[3-Fluoro-4-[N-1[4-(5-bromo-2-furoyl)]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl] methyl]acetamide
5. (S)-N-[[3-Fluoro-4-[N-1[4-(5-chloromethyl-2-furoyl)piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
6. (S)-N-[[3-Fluoro-4-[N-1[4-(5-nitro-2-furoyl)piperazinyl]phenyl]-2-oxo-5-oxazolidinyl] methyl]acetamide
- 10 7. (S)-N[[3-[3-Fluoro-4-[N-1[4-{2-(2-thienyl)dicarbonyl}]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide
8. (S)-N[[3-[3-Fluoro-4-[N-1[4-(3-furoyl)]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl] acetamide
- 15 9. (S)-N[[3-[3-Fluoro-4-[N-1[4-{2-furyl(5-bromo)methyl}]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide
10. (S)-N[[3-[3-Fluoro-4-[N-1[4-{2-thienyl(5-chloro)methyl}]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide
- 20 11. (S)-N[[3-[3-Fluoro-4-[N-1[4-(2-furylmethyl)]piperazinyl]phenyl]2-oxo-5-oxazolidinyl] methyl]acetamide
12. (S)-N-[[3-[3-Fluoro-4-[N-1[4-(2-thienylmethyl)]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 25 13. (S)-N[[3-[3-Fluoro-4-[N-1[4-(2-thienylacetyl)]piperazinyl]phenyl]2-oxo-5-oxazolidinyl] methyl]acetamide
14. (S)-N-[[3-[3-Fluoro-4-[N-1[4-{2-thienyl(4-bromo)methyl}]piperazinyl]phenyl]-2 oxo-5-oxazolidinyl]methyl]acetamide
- 30 15. (S)-N-[[3-[3-fluoro-4-[N-1-[4-{2-furyl-(5-nitro)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide.

16. Hydrochloric salt of (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-nitro)methyl}]piperazinyl] phenyl]-2-oxo-5-oxazolidinyl)methyl]acetamide
- 5 17. Citrate salt of (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-nitro)methyl}]piperazinyl] phenyl]-2-oxo-5-oxazolidinyl)methyl]acetamide
18. (S)-N[[3-[3-Fluoro-4-[N-1[4-(2-pyrrolylmethyl)]piperazinyl]phenyl]2-oxo-5-oxazolidinyl)methyl]acetamide
- 10 19. (S)-N[[3-[3-Fluoro-4-[N-1[4-{2-thienyl(3-methyl)methyl}]piperazinyl]phenyl]2-oxo-5-oxazolidinyl)methyl]acetamide
20. (S)-N[[3-[3-Fluoro-4-[N-1[4-(3-furylmethyl)]piperazinyl]phenyl]2-oxo-5-oxazolidinyl] methyl]acetamide
- 15 21. (S)-N[[3-[3-Fluoro-4-[N-1[4-{2-thienyl(5-methyl)methyl}]piperazinyl]phenyl]2-oxo-5-oxazolidinyl)methyl]acetamide
22. (S)-N[[3-[3-Fluoro-4-[N-1[4-{2-pyrrole(1-methyl)methyl}]piperazinyl] phenyl]2-oxo-5-oxazolidinyl)methyl]acetamide
- 20 23. (S)-N[[3-[3-Fluoro-4-[N-1[4-{2-thienyl(5-nitro)methyl}]piperazinyl]phenyl]2-oxo-5-oxazolidinyl)methyl]acetamide
24. (S)-N[[3-[3-Fluoro-4-[N-1[4-[2-furyl{5-(N-thiomorpholinyl)methyl} methyl]piperazinyl] phenyl]2-oxo-5-oxazolidinyl)methyl]acetamide
- 25 25. (S)-N[[3-[3-Fluoro-4-[N-1[4-[2-furyl{5-(N-morpholinyl)methyl} methyl]]piperazinyl] phenyl]2-oxo-5-oxazolidinyl)methyl]acetamide
26. (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-acetoxymethyl)methyl}]piperazinyl] phenyl]-2-oxo-5-oxazolidinyl)methyl]acetamide
- 30 27. (S)-N-[[3-Fluoro-4-[N-1[4-{2-thienyl(5-bromo)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl)methyl]acetamide
28. (S)-N-[[3-Fluoro-4-[N-1[4-(5-nitro-2-furylmethyl)piperazinyl] phenyl]- 2-oxo oxazolidinyl)methyl]dichloroacetamide

29. (S)-N-[[3-[3-Fluoro-4-[N-1[4-(5-nitro-2-thienoyl)]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide hydrochloride
30. (S)-N-[[3-[3-Fluoro-4-[N-1[4-(2',2'-diphenyl-2'-hydroxy acetyl)]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide
- 5 31. (S)-N-[[3-[3-Fluoro[4-[3-(1 α ,5 α ,6 α)-6-[N-(5-nitro-2-furoyl)-N-methyl]amino]-3-azabicyclo-[3.1.0]hexane]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
32. (S)-N-[[3-[3-Fluoro[4-[3-(1 α ,5 α ,6 α)-6-[N-(3-furoyl)-N-methyl]amino]-3-azabicyclo-[3.1.0]hexane]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 10 33. (S)-N-[[3-[3-Fluoro[4-[3-(1 α ,5 α ,6 α)-6-[N-(5-bromo-2-furoyl)-N-methyl]amino]-3-azabicyclo-[3.1.0]hexane]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
34. (S)-N-[[3-[3-Fluoro[4-[3-(1 α ,5 α ,6 α)-6-[N-(5-nitro-2-thienylmethyl)-N-methyl]amino]-3-azabicyclo-[3.1.0]hexane]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 15 35. (S)-N-[[3-[3-Fluoro[4-[3-(1 α ,5 α ,6 α)-6-[N-(5-nitro-2-furylmethyl)-N-methyl]amino]-3-azabicyclo-[3.1.0]hexane]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
36. (S)-N-[[3-[3-Fluoro[4-[3-(1 α ,5 α ,6 α)-6-[N-(5-formyl-2-furylmethyl)-N-methyl]amino-methyl]-3-azabicyclo-[3.1.0]hexane]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 20 37. (S)-N-[[3-[3-Fluoro[4-[3-(1 α ,5 α ,6 α)-6-[N-(5-carboxyethyl-2-furylmethyl)-N-methyl]aminomethyl]-3-azabicyclo-[3.1.0]hexane]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 25 38. (S)-N-[[3-[3-Fluoro[4-[3-(1 α ,5 α ,6 α)-6-[N-(2-thiopheneacetyl)-N-methyl]aminomethyl]-3-azabicyclo-[3.1.0]hexane]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 30 39. (S)-N-[[3-[3-Fluoro[4-[3-(1 α ,5 α ,6 α)-6-[N-(5-nitro-2-thienylmethyl)-N-methyl]amino-methyl]-3-azabicyclo-[3.1.0]hexane]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide

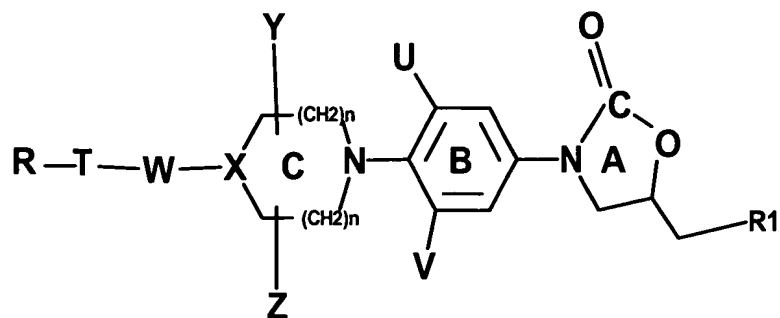
40. (S)-N-[[3-[3-Fluoro[4-[3-(1 α ,5 α ,6 α)-6-[N-(5-nitro-2-furylmethyl)-N-methyl]amino-methyl]-3-azabicyclo-[3.1.0]hexane]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 5 41. (S)-N-[[3-[4-[4-(N-methyl-N-2furyl(5formyl)methylaminopiperidine-1-yl]-3-fluorophenyl]-2-oxo-oxazolidin-5-yl]methyl]acetamide
42. (S)-N-[[3-[4-[4-(N-methyl-N-(3,5-difluorobenzoyl)aminopiperidine-1-yl]-3-fluorophenyl]-2-oxo-oxazolidin-5-yl] methyl]acetamide.
43. (S)-N-[[3-[4-[4-(N-methyl-N-(5-bromo-2-furoyl)aminopiperidine-1-yl]-3-fluorophenyl]-2-oxo-oxazolidin-5-yl] methyl]acetamide
- 10 44. (S)-N-[[3-[4-[4-(N-methyl-N-(5-nitro-2-furoyl)aminopiperidine-1-yl]-3-fluorophenyl]-2-oxo-oxazolidin-5-yl]methyl]acetamide
45. (S)-N-[[3-[4-[4-(N-methyl-N-3- furoyl)aminopiperidine-1-yl]-3-fluorophenyl]-2-oxo-oxazolidin-5-yl]methyl]acetamide.
- 15 46. (S)-N-{3-[4-[4-(N-methyl, N- 2-furoyl)aminopiperidine-1-yl]-3-fluorophenyl]-2-oxo-oxazolidin-5-yl methyl]acetamide
47. (S)-N-{3-[4-[4-(N-methyl,2-thiopheneacetyl)aminopiperidine-1-yl]-3-fluorophenyl]-2-oxo oxazolidin-5-yl methyl]acetamide
48. (S)-N-[[3-[4-[4-(N-methyl-N-2furylmethyl) aminopiperidine-1-yl]-3-fluorophenyl]-2-oxo-oxazolidin-5-yl]methyl]acetamide
- 20 49. (S)-N-[[3-[4-[4-(N-methyl-N-3-furyl)aminopiperidine-1-yl]-3-fluorophenyl]-2-oxo-oxazolidin-5-yl] methyl]acetamide.
50. (S)-N-[[3-[4-[4-(N-methyl-N-2-furyl(5-nitro)methyl)aminopiperidine-1-yl]-3-fluorophenyl]-2-oxo-oxazolidin-5-yl] methyl]acetamide.
- 25 51. (S)-N-[[3-[4-[4-(N-methyl-N-2-thienyl(5-nitro)methyl)aminopiperidine-1-yl]-3-fluorophenyl]-2-oxo-oxazolidin-5-yl] methyl]acetamide.
52. (S)-N-[[3-[4-[4-(N-methyl-N-2-thienylmethyl)aminopiperidine-1-yl]-3-fluorophenyl]-2-oxo-oxazolidin-5-yl]methyl]acetamide.
53. (S)-N-[[3-[4-[4-(N-methyl-N-(5-methyl-2-thienylmethyl)aminopiperidine-1-yl]-3-fluorophenyl]-2-oxo-oxazolidin-5-yl] methyl]acetamide
- 30 54. (S)-N-{3-[4-[4-(N-methyl,2-(5-bromo)thienylmethyl)aminopiperidine-1-yl]-3-fluorophenyl]-2-oxo-oxazolidin-5-yl methyl]acetamide

55. (S)-N-[[3-[3-Fluoro-4-[N-1[4-{2-furyl(5-formyl)methyl}]homopiperazinyl]phenyl]2-oxo-5-oxazolidinyl)methyl]acetamide
56. (S)-N-[[3-[3-Fluoro-4-[N-1[4-(2-thienylacetyl)]homopiperazinyl]phenyl]2-oxo-5-oxazolidinyl)methyl]acetamide
57. (S)-N-[[3-[3-Fluoro-4-[N-1[4-{2-thienyl(5-nitro)methyl}]homopiperazinyl]phenyl]2-oxo-5-oxazolidinyl)methyl]acetamide
58. (S)-N-[[3-[3-Fluoro-4-[N-1[4-(3-furylmethyl)]homopiperazinyl]phenyl]2-oxo-5-oxazolidinyl)methyl]acetamide
59. Preparation of (S)-N-[[3-[3-fluoro-4-[N-1{2-furyl-[4-(5-difluoromethyl)methyl}]piperazinyl]-2-oxo-5-oxazolidinyl]-methyl]acetamide.
60. (S)-N-[[3-[3-Fluoro-4-[N-1[4-(2-furyl(5-aldoxime)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl)methyl]acetamide
61. (S)-N-[[3-[3-Fluoro-4-[N-1[4-{2-furyl(5-aldoxime(methyl-4-(N-carboxyaminophenyl acetate) methyl})piperazinyl]phenyl]-2-oxo-5-oxazolidinyl)methyl]acetamide
62. (S)-N-[[3-[3-Fluoro-4[N-1-[4-{2-furyl(5-hydrazone)-methyl}]piperazinyl]-phenyl]-2-oxo-5-oxazolidinyl]-methyl]acetamide
63. Preparation of (S)-N-[[3-[3-Fluoro-4-[N-1{2-furyl-[4-(5-hydroxymethyl)methyl}]piperazinyl]-2-oxo-5-oxazolidinyl)methyl]acetamide
64. (S)-N-[[3-[3-Fluoro-4-[N-1[4-{2-furyl(5-cyano)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl)methyl]acetamide
65. (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-carboxy)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl)methyl]acetamide
66. (S)-N-[[3-Fluoro-4-[N-1[5-(1,3-dioxane)-2-furylmethyl]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl)methyl]acetamide
67. (S)-N-[[3-Fluoro-4-[N-1[5-(formamido)-2-furylmethyl]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl)methyl]acetamide
68. (S)-N-[[3-Fluoro-4-[N-1[5-(morpholine-1-carbonyl)-2-furylmethyl]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl)methyl]acetamide

69. (S)-N-[[3-Fluoro-4-[N-1[5-(4-(tert butoxy carbonyl)amino piperidine)-2-furylmethyl]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide
70. (S)-N-[[3-Fluoro-4-[N-1[4-{(Z)-2-methoxyimino-2-(2-furyl)acetyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 5 71. (S)-N-[[3-[3-Fluoro[4-[3-(1 α ,5 α ,6 α)-6-[N-(2-thiopheneacetyl)-N-methyl]amino]-3-azabicyclo-[3.1.0]hexane]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
72. (S)-N-[[3-[3-Fluoro[4-[3-(1 α ,5 α ,6 α)-6-[N-(5-formyl-2-furylmethyl)-N-methyl]amino]-3-azabicyclo-[3.1.0]hexane]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 10 73. (S)-N-[[3-[3-Fluoro[4-[3-(1 α ,5 α ,6 α)-6-[N-(3-thienoyl)-N-methyl]amino]-3-azabicyclo[3.1.0]hexane]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
74. (S)-N-[[3-[3-fluoro-4-[N-1{2-furyl-[4-(5-fluoromethyl)methyl}]piperazinyl]-2-oxo-5-oxazolidinyl]-methyl]acetamide.
- 15

4. A pharmaceutical composition comprising the compound of claims 1, 2, or 3 and a pharmaceutical acceptable carrier.
5. A pharmaceutical composition comprising a pharmaceutically effective amount of compound according to claims 1, 2, or 3, or a physiologically acceptable acid addition salt thereof with a pharmaceutical acceptable carrier for treating microbial infections.
- 20 6. A method of treating or preventing microbial infections in a mammal comprising administering to the said mammal, the pharmaceutical composition according to claim 5.
- 25

7. A process for preparing a compound of Formula I



FORMULA I

and its pharmaceutically acceptable salts, enantiomers, diastereomers, N-oxides, prodrugs or metabolites, wherein

T is five to seven membered heterocyclic ring, aryl, substituted aryl, bound to the ring C with a linker w and the heterocyclic and aryl rings are further substituted by a group represented by R,

wherein R is selected from the group consisting of $-\text{CN}$, COR_5 , COOR_5 , $\text{N}(\text{R}_6, \text{R}_7)$, $\text{CON}(\text{R}_6, \text{R}_7)$, CH_2NO_2 , NO_2 , CH_2R_8 , CHR_9 , $-\text{CH} = \text{N}-\text{OR}_{10}$, $-\text{C}=\text{CH}-\text{R}_5$, wherein R_5 is selected from the group consisting of H, optionally substituted $\text{C}_1\text{-C}_{12}$, alkyl, $\text{C}_3\text{-}_{12}$, cycloalkyl, aryl, heteroaryl, R_6 and R_7 , are independently selected from the group consisting of H, optionally substituted $\text{C}_1\text{-}_{12}$ alkyl, $\text{C}_3\text{-}_{12}$ cycloalkyl, $\text{C}_1\text{-}_6$ alkoxy; R_8 and R_9 are independently selected from the group consisting of H, $\text{C}_1\text{-}_6$ alkyl, F, Cl, Br, $\text{C}_1\text{-}_{12}$ alkyl substituted with one or more of F, Cl, Br, I, OR_4 , SR_4 , $\text{N}(\text{R}_6, \text{R}_7)$ wherein R_4 is selected from the group consisting of H, $\text{C}_1\text{-}_{12}$ alkyl, $\text{C}_3\text{-}_{12}$ cycloalkyl, $\text{C}_1\text{-}_6$ alkoxy, $\text{C}_1\text{-}_6$ alkyl substituted with one or more F, Cl, Br, I or OH and R_6 and R_7 are the same as defined earlier, R_{10} is selected from the group consisting of

H, optionally substituted from H, optionally substituted C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆, alkoxy, C₁₋₆ alkyl, aryl, heteroaryl;

n is an integer in the range from 0 to 3;

X is CH, CH-S, CH-O and N;

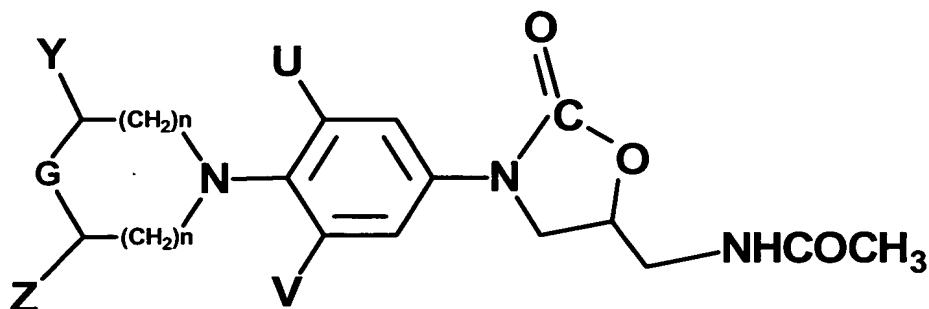
5 **Y and Z** are independently selected from the group consisting of hydrogen, C₁₋₆ alkyl, C₃₋₁₂ cycloalkyl, C₀₋₃ bridging group;

U and V are independently selected from the group consisting of optionally substituted C₁₋₆ alkyl, F, Cl, Br, C₁₋₁₂ alkyl substituted with one or more of F, Cl, Br, I, preferably U and V are hydrogen or fluoro;

10 **W** is selected from the group consisting of CH₂, CO, CH₂NH, -NHCH₂, -CH₂NHCH₂, -CH₂-N(R₁₁)CH₂-, CH₂(R₁₁)N-, CH(R₁₁), S, CH₂(CO), NH wherein R₁₁ is optionally substituted with C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆ alkoxy, C₁₋₆ alkyl, aryl, heteroaryl; and

15 **R₁** is selected from the group consisting of -NHC(=O)R₂ wherein R₂ is hydrogen, C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆ alkoxy, C₁₋₆ alkyl substituted with one or more of F, Cl, Br, I or OH; N(R₃, R₄); -NR₂C(=S)R₃; -NR₂C(=S)SR₃ wherein R₂ is the same as defined above and R₃ and R₄ are independently selected from the group consisting of H, C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆ alkoxy, C₁₋₆ alkyl substituted with one or more of F, Cl, Br, I or OH,

which comprises reacting an amine compound of Formula V

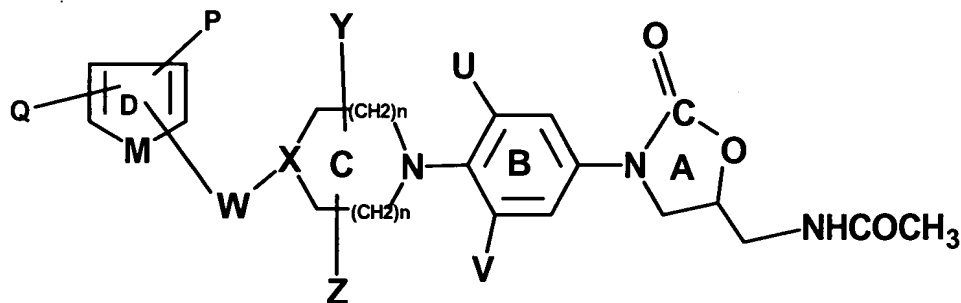


FORMULA V

with a heterocyclic compound of Formula R-T-W- R₁₂ wherein G in amines of Formula V is defined as NH, CH(NHR₁₃), -CH-CH₂NHR₁₃ wherein R₁₃ is H, ethyl, methyl, isopropyl, acetyl, cyclopropyl, alkoxy or acetyl and Y, Z, U, V, R₁, n, R, T and W are the same as defined earlier and R₁₂ is a suitable leaving group selected from the group comprising of fluoro, chloro, bromo, SCH₃, -SO₂CH₃, -SO₂CF₃ or OC₆H₅.

8. A process for preparing a compound of Formula I as claimed in claim 7, wherein W=CH₂ and R-T-W-R₁₂ is a five membered heterocyclic ring with aldehyde group and the compound of Formula I is produced by reductive amination.
9. A process for preparing a compound of Formula I as claimed in claim 7, wherein W = CO and R-T-W-R₁₂ is a five membered heterocyclic ring with carboxylic acid, and amino compound of Formula V is acylated with activated esters in presence of condensing agents comprising 1,3-dicyclohexylcarbodiimide (DCC) and 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide (EDC).

10. A process for the preparation of compound of Formula II



5

FORMULA II

wherein

n is an integer in the range from 0 to 3;

X is CH, CH-S, CH-O and N;

- 10 **Y and Z** are independently selected from the group consisting of hydrogen, C₁₋₆ alkyl, C₃₋₁₂ cycloalkyl, C₀₋₃ bridging group;

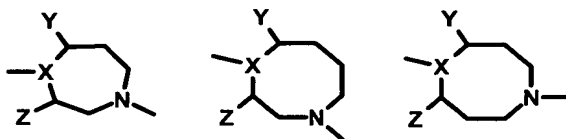
U and V are independently selected from the group consisting of optionally substituted C₁₋₆ alkyl, F, Cl, Br, C₁₋₁₂ alkyl substituted with one or more of F, Cl, Br, I, preferably U and V are hydrogen or fluoro;

- 15 **W** is selected from the group consisting of CH₂, CO, CH₂NH, -NHCH₂, -CH₂NHCH₂, -CH₂-N(R₁₁)CH₂-, CH₂(R₁₁)N-, CH(R₁₁), S, CH₂(CO), NH wherein R₁₁ is optionally substituted with C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆ alkoxy, C₁₋₆ alkyl, aryl, heteroaryl; and

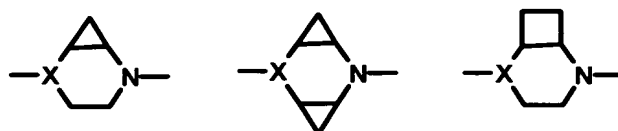
- 20 **Q and P** are independently selected from the group consisting of -CN, COR₅, COOR₅, N(R₆, R₇), CON(R₆, R₇), CH₂NO₂, NO₂, CH₂R₈, CHR₉, -CH=N-OR₁₀, C=CH-R₅, wherein R₅ is selected from the group consisting of H,

optionally substituted C_{1-12} alkyl, C_{3-12} cycloalkyl, aryl, heteroaryl; R_6 and R_7 are independently selected from the group consisting of H, optionally substituted C_{1-12} alkyl, C_{3-12} cycloalkyl, C_{1-6} alkoxy; R_8 and R_9 are independently selected from the group consisting of H, C_{1-6} alkyl, F, Cl, Br, C_{1-12} alkyl substituted with one or more of F, Cl, Br, I, OR_4 , SR_4 , wherein R_4 is the same as defined before, $N(R_6, R_7)$, R_{10} is selected from the group consisting of H, optionally substituted C_{1-12} alkyl, C_{3-12} cycloalkyl, C_{1-6} alkoxy, C_{1-6} alkyl, aryl, heteroaryl except $W = (CO)$, Q and P = H.

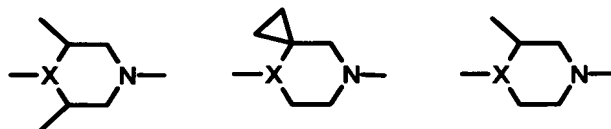
Ring C in Formula II is 6-8 membered or of larger size and the larger rings have either two or three carbons between each nitrogen atom, comprising of



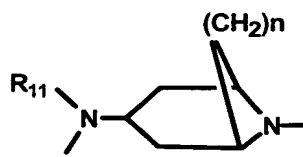
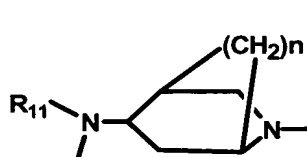
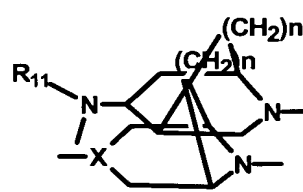
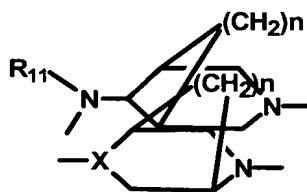
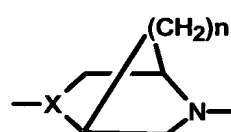
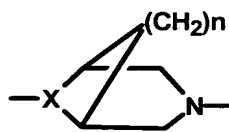
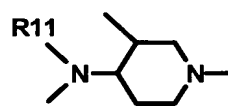
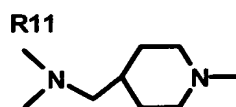
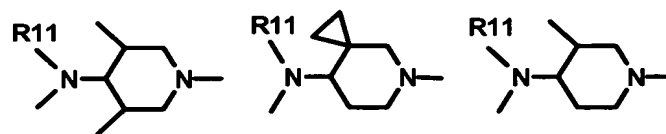
and may be bridged to form a bicyclic system as shown below,



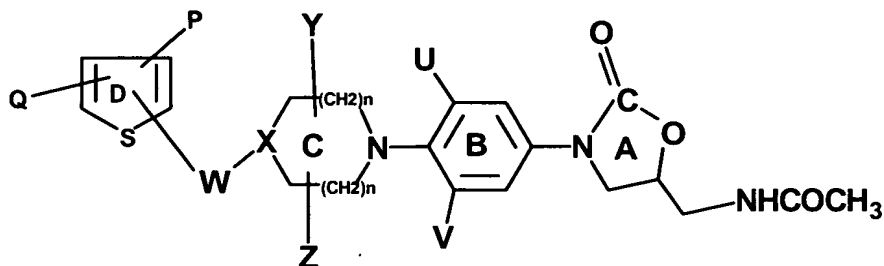
ring C is optionally substituted by Y and Z with alkyl groups, cycloalkyl groups, fluoro group, carboxylic and corresponding esters, amides, substituted alkyls or bridging alkyl groups are as shown below:



six membered ring C with X = -CH-(NHR₁₁), (wherein R₁₁ is the same as defined earlier) is selected from the group consisting of the following rings;

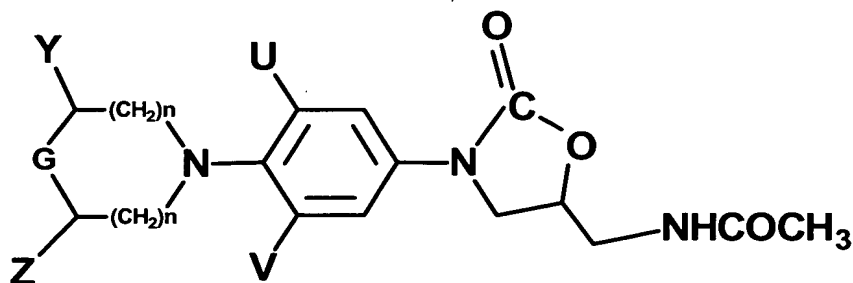


wherein M = Sulphur is shown by compounds of Formula III,



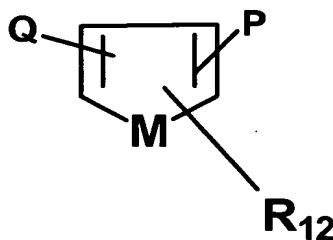
FORMULA III

wherein **P**, **Q**, **U**, **V**, **X**, **Y**, **Z**, **W** and **n** in Formula III are the same as previously defined, wherein the process comprising reacting a compound of Formula V



FORMULA V

with a compound of Formula VI

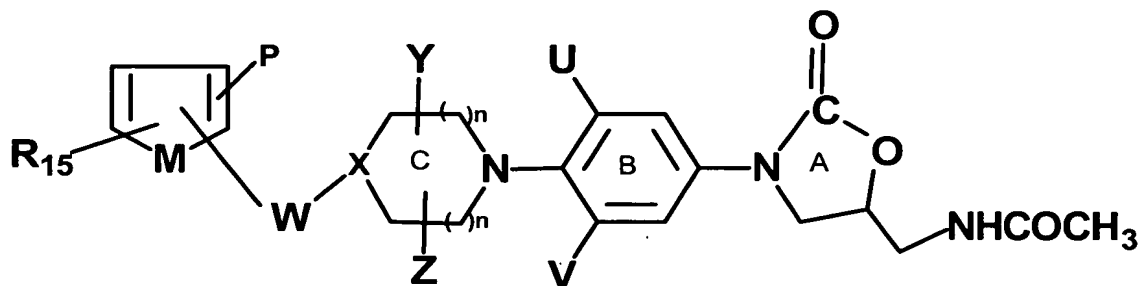


FORMULA VI

wherein **P**, **Q**, **R₁₂**, **Y**, **Z**, **G**, **n**, **U** and **V** are the same as defined earlier.

11. A process for preparing a compound of Formula II as claimed in claim 10, in a suitable solvent selected from the group consisting of dimethylformamide, dimethylacetamide, ethanol or ethylene glycol at a suitable temperature in the range of -70°C to 180°C in the presence of a suitable base selected from the group consisting of triethyl amine, diisopropyl amine, potassium carbonate and sodium bicarbonate.

12. A process of preparing a compound of Formula II as claimed in claim 10 wherein Formula VI is furalehyde and reductive alkylation of the amine of Formula V is performed with a reducing agent.
13. A process for preparing a compound of Formula II as claimed in claim 10 wherein Formula VI is furoic acid.
14. A process for preparing a compound of Formula II as claimed in claim 10 wherein the compounds of Formula II having carbonyl link are prepared by reacting heteroaromatic compound of the Formula VI including N- methyl pyrrole with the intermediate amine of Formula V in the presence of triphosgene or phosgene and carbonyl linkers are introduced between heteroaromatic compound comprising reacting 3- bromothiophene and amine of Formula V with carbon monoxide and the catalyst is selected from the group consisting of Pd (PPh₃)₂Cl₂ and extended chain pyrroles having dicarbonyl linkers are obtained by treatment of oxalyl chloride and amine of the Formula V.
15. A process for preparing a compound of Formula VIII



FORMULA VIII

wherein

n is an integer in the range from 0 to 3;

X is CH, CH-S, CH-O and N;

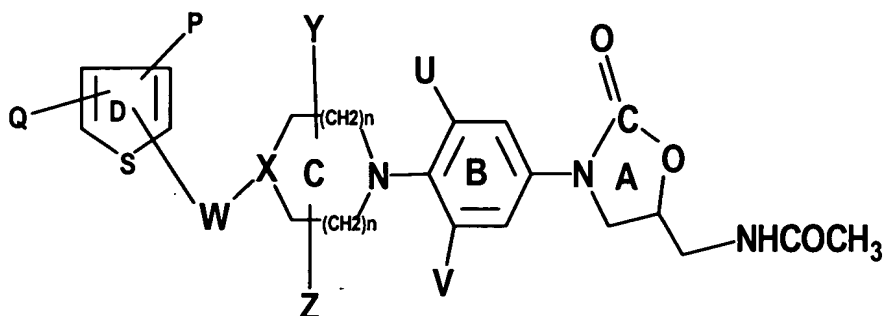
Y and Z are independently selected from the group consisting of hydrogen, C₁₋₆ alkyl, C₃₋₁₂ cycloalkyl, C₀₋₃ bridging group;

5 **U and V** are independently selected from the group consisting of optionally substituted C₁₋₆ alkyl, F, Cl, Br, C₁₋₁₂ alkyl substituted with one or more of F, Cl, Br, I, preferably U and V are hydrogen or fluoro;

10 **W** is selected from the group consisting of CH₂, CO, CH₂NH, -NHCH₂, -CH₂NHCH₂, -CH₂-N(R₁₁)CH₂-, CH₂(R₁₁)N-, CH(R₁₁), S, CH₂(CO), NH wherein R₁₁ is optionally substituted with C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆ alkoxy, C₁₋₆ alkyl, aryl, heteroaryl;

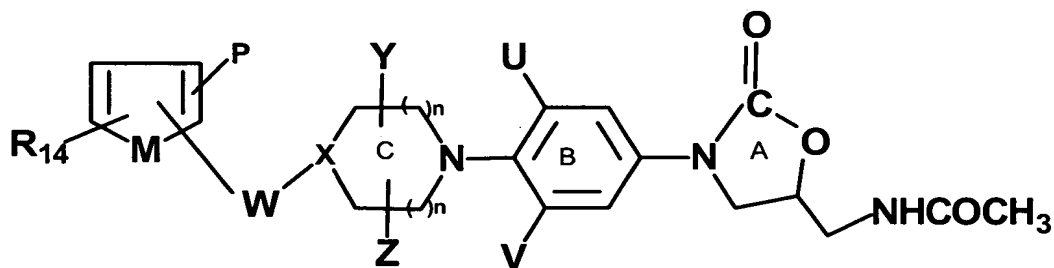
15 **Q and P** are independently selected from the group consisting of -CN, COR₅, COOR₅, N(R₆, R₇), CON(R₆, R₇), CH₂NO₂, NO₂, CH₂R₈, CHR₉, -CH=N-OR₁₀, C=CH-R₅, wherein R₅ is selected from the group consisting of H, optionally substituted C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, aryl, heteroaryl; R₆ and R₇ are independently selected from the group consisting of H, optionally substituted C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆ alkoxy; R₈ and R₉ are independently selected from the group consisting of H, C₁₋₆ alkyl, F, Cl, Br, C₁₋₁₂ alkyl substituted with one or more of F, Cl, Br, I, OR₄, SR₄, wherein R₄ is
20 the same as defined before, N(R₆, R₇), R₁₀ is selected from the group consisting of H, optionally substituted C₁₋₁₂ alkyl, C₃₋₁₂ cycloalkyl, C₁₋₆ alkoxy, C₁₋₆ alkyl, aryl, heteroaryl except W = (CO), Q and P = H;

M = Sulphur is shown by compounds of Formula III



FORMULA III

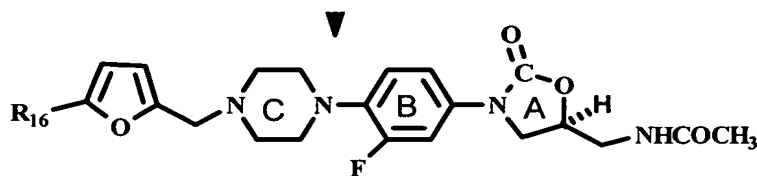
and R₁₅ is the same as Q defined earlier, comprising converting a compound of Formula VII



FORMULA VII

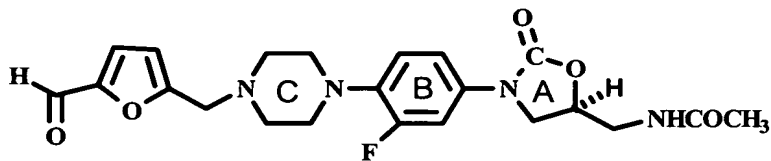
wherein in U, V, Y, Z, X, W, P, n and M are the same as defined earlier and R₁₄ is any group which can be converted to group R₁₅ in one to five steps.

16. A process for preparing a compound of Formula XI



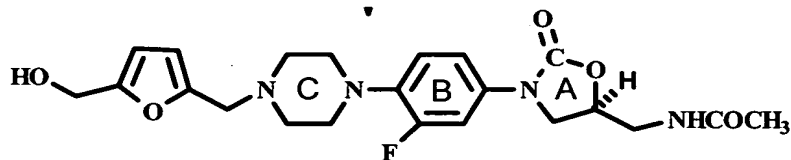
FORMULA XI

(R₁₆ = -CH₂F or -CH₂F₂) by reacting a compound of Formula IX



FORMULA IX

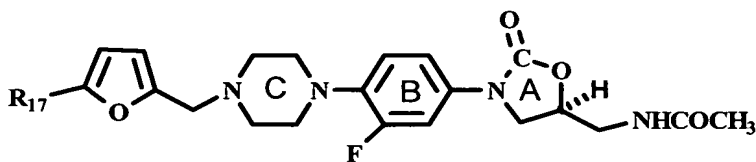
with sodium borohydride to produce a compound of Formula X



FORMULA X

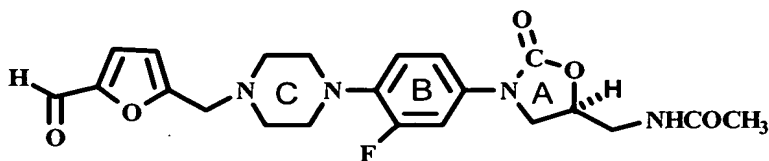
and further reacting this compound with diethylamino sulfurtrifluoride to produce compound of Formula XI.

17. A process for preparing a compound of Formula XII



FORMULA XII

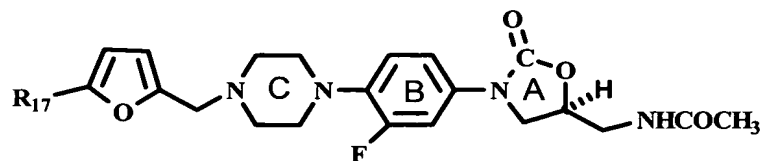
wherein $R_{17} = \text{N-OH}$ which comprises reacting (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-formyl)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]-methyl] acetamide of Formula IX



FORMULA IX

with hydroxylamine.

18. A process for preparing a compound of Formula XII

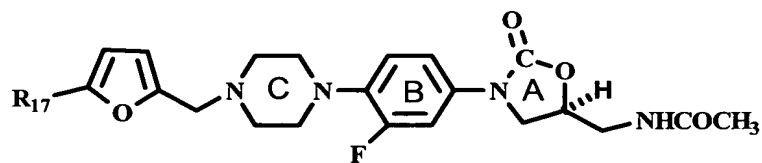


5

FORMULA XII

wherein $R_{17} = \text{---} \text{N} = \text{NH}_2$ which comprises reacting (S)-N-[[3-[3-Fluoro-4[N-1-[4-{2-furyl-(5-hydrazone)-methyl}]-piperazinyl]-phenyl]-2-oxo-5-oxazolidinyl]-methyl]acetamide with hydrazine hydrate.

19. A process for preparing a compound of Formula XII



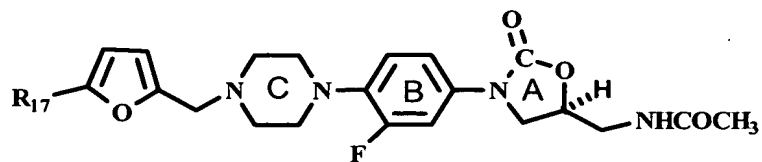
10

FORMULA XII

wherein $R_{17} = \text{---} \text{N} = \text{O} \text{---} \text{C}(\text{O}) \text{---} \text{NH} \text{---} \text{C}_6\text{H}_4 \text{---} \text{CH}_2\text{COOCH}_3$ which comprises reacting (S)-N-[[3-[3-Fluoro-4-[N-1-[4-(2-furyl-(5-aldoxime)methyl}]] piperazinyl] phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide with isocyanate.

15

20. A process for preparing a compound of Formula XII

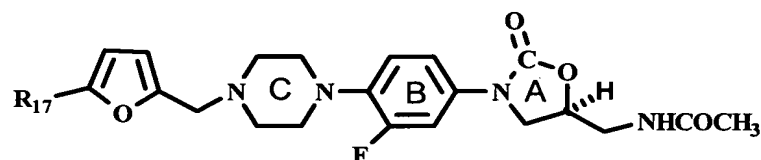


20

FORMULA XII

wherein $R_{17} = \text{CN}$ which comprises reacting (S)-N-[[3-[3-Fluoro-4-[N-1[4-{2-furyl(5-cyano)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide with triflic anhydride and triethylamine.

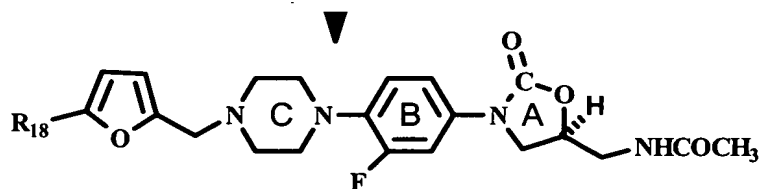
21. A process for preparing a compound of Formula XII



FORMULA XII

10 wherein $R_{17} = \text{---CH---}$ which comprises reacting (S)-N-[[3-Fluoro-4-[N-1[5-(1,3-dioxane)-2-furylmethyl]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide with 1,3-propane diol and BF_3 etherate.

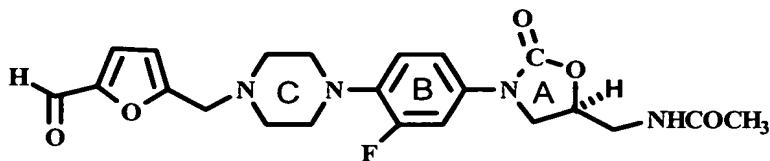
22. A process for the preparation of the compound of Formula XIV



FORMULA XIV

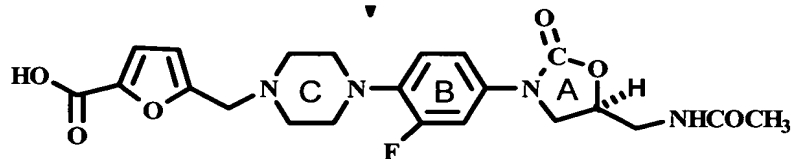
wherein $R_{18} = \text{---C(=O)NH}_2$

20 which comprises reacting (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-formyl)-methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide of Formula IX



FORMULA IX

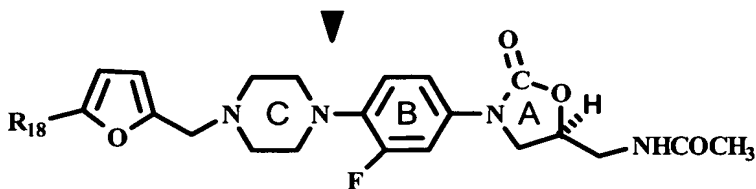
5 with Ag_2O to produce (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-carboxy)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide of Formula XIII followed by reacting (S)-N-[[3-Fluoro-4-[N-1[4-(2-furyl- (5-carboxy-ethyl)methyl)piperazinyl] phenyl]- 2-oxo-5-oxazolidinyl]methyl] acetamide of Formula XIII



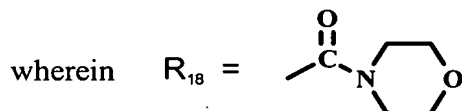
FORMULA XIII

with aqueous ammonia to produce Formula XIV.

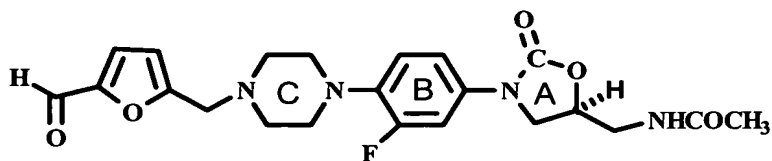
23. A process for the preparation of the compound of Formula XIV



FORMULA XIV

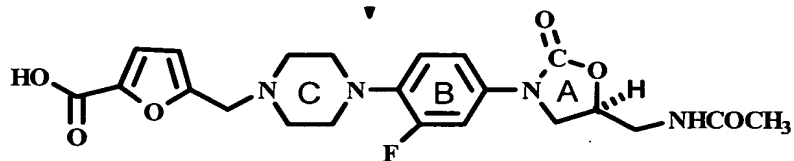


which comprises reacting (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-formyl)-methyl}] piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide of Formula IX



FORMULA IX

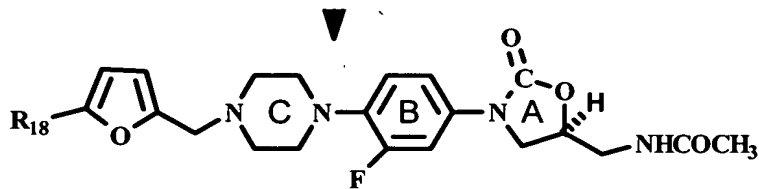
- 5 with Ag₂O to produce (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-carboxy)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide of Formula XIII followed by reacting (S)-N-[[3-Fluoro-4-[N-1[4-(2-furyl- (5-carboxy-ethyl)methyl)piperazinyl] phenyl]- 2-oxo-5-oxazolidinyl]methyl] acetamide of Formula XIII



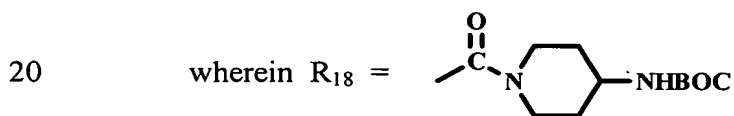
FORMULA XIII

with thionyl chloride to produce Formula XIV.

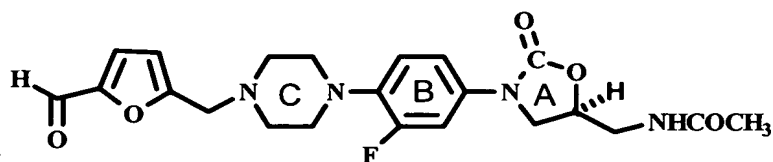
- 15 24. A process for the preparation of the compound of Formula XIV



FORMULA XIV



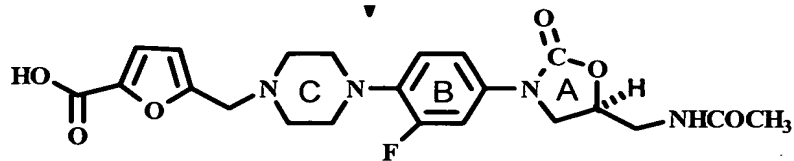
which comprises reacting (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-formyl)-methyl}] piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide of Formula IX



FORMULA IX

5 with Ag₂O to produce (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-carboxy)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide of Formula XIII followed by reacting (S)-N-[[3-Fluoro-4-[N-1[4-(2-furyl- (5-carboxyethyl)methyl)piperazinyl] phenyl]- 2-oxo-5-oxazolidinyl]methyl] acetamide of

Formula XIII



FORMULA XIII

with morpholine in the presence of oxalyl chloride to produce Formula XIV.